

Amendments to the Claims:

This listing of claims replaces all prior versions and listings of claims in the application:

Listing of Claims:

1. (Currently amended) A method of manufacturing an EL display device, said method comprising the steps of:

forming an amorphous semiconductor film comprising $\text{Si}_x\text{Ge}_{1-x}$ ($0 < x < 1$) on an insulating surface;

removing a portion of the amorphous semiconductor film to form a metal element addition region, where a metal element is capable of promoting crystallization of the amorphous semiconductor film;

selectively introducing the metal element in contact with the metal element addition region;

heating the amorphous semiconductor film so that crystals grow in parallel to the insulating surface from the metal element addition region,

wherein the metal element is selectively introduced by coating a water repellant solution containing the metal element therein to $[[,]]$ the semiconductor film.

2. (Original) A method according to claim 1,

wherein a surface of a region where crystal growth is conducted is exposed in crystal growth.

3. (Original) A method according to claim 1, wherein the metal element is at least one selected from the group consisting of Fe, Co, Ni, Ru, Rh, Pd, Os, Ir, Pt, Cu and Au.

4. (Currently Amended) A method of manufacturing an EL display device, said method comprising steps of:

forming an amorphous semiconductor film comprising $\text{Si}_x\text{Ge}_{1-x}$ ($0 < x < 1$) on an insulating surface;

removing a portion of the semiconductor film to form a metal element addition region, where a metal element is capable of promoting crystallization of the amorphous semiconductor film;

introducing the metal element in contact with the metal element addition region;

heating the amorphous semiconductor film so that crystals grow in parallel to the insulating surface from the metal element region;

forming a semiconductor island using the crystallized semiconductor film;

forming a gate electrode adjacent to the semiconductor island having a gate insulating film therebetween;

introducing an impurity into the semiconductor island to form at least a source region, a drain region, and a channel region between the source and drain regions,

wherein the metal element is selectively introduced by coating a water repellant solution containing the metal element therein $[[,]]$ to the semiconductor film.

5. (Original) A method according to claim 4, wherein the metal element is one selected from the group consisting of Fe, Co, Ni, Ru, Rh, Pd, Os, Ir, Pt, Cu and Au.

6. (Previously presented) A method of manufacturing an EL display device, said method comprising the steps of:

forming an amorphous semiconductor film comprising $\text{Si}_x\text{Ge}_{1-x}$ ($0 < x < 1$) on an insulating surface;

removing a portion of the semiconductor film to form a metal element addition region, where a metal element is capable of promoting crystallization of the amorphous semiconductor film;

introducing the metal element in direct contact with the metal element addition region;
and

crystallizing the amorphous semiconductor film in a parallel direction to the insulating surface from the metal addition region by heating;

forming a semiconductor island using the crystallized semiconductor film;

forming a gate electrode adjacent to the semiconductor island having a gate insulating film therebetween;

introducing an impurity into the semiconductor island to form at least a source region, a drain region, and a channel region between the source and drain regions;

forming an insulating film covering the semiconductor island and the gate electrode;

forming at least an electrode being connected to at least one of the source and drain regions through the insulating film,

wherein the metal element is selectively introduced by coating a water repellant solution containing the metal element therein [[,]] to the semiconductor film.

7. (Original) A method according to claim 6, wherein the metal element is at least one selected from the group consisting of Fe, Co, Ni, Ru, Rh, Pd, Os, Ir, Pt, Cu and Au.

8. (Previously presented) A method according to claim 1, further comprising:
irradiating the crystallized semiconductor film with a laser light.

9. (Previously presented) A method according to claim 1, further comprising:
heating the crystallized semiconductor film in an atmosphere comprising a halogen element.

10. (Previously presented) A method according to claim 4, further comprising:
irradiating the crystallized semiconductor film with a laser light.

11. (Previously presented) A method according to claim 4, further comprising:
heating the crystallized semiconductor film in an atmosphere comprising a halogen
element.

12. (Previously presented) A method according to claim 6, further comprising:
irradiating the crystallized semiconductor film with a laser light.

13. (Previously presented) A method according to claim 6, further comprising:
heating the crystallized semiconductor film in an atmosphere comprising a halogen
element.

14. (Withdrawn) A method of manufacturing an EL display device, said method
comprising the steps of:

forming an amorphous semiconductor film comprising $\text{Si}_x\text{Ge}_{1-x}$ ($0 < x < 1$) on an insulating
surface;

selectively introducing a metal element into a first portion of the amorphous
semiconductor film while the metal element is not introduced into a second portion of the
amorphous semiconductor film, said metal element being capable of promoting crystallization of
the amorphous semiconductor film;

heating the amorphous semiconductor film to form a crystalline semiconductor film;
wherein a crystal growth vertically proceeds in the first portion while the crystal growth
laterally proceeds from the first portion in the second portion;

patterning the crystalline semiconductor film to form a first crystalline semiconductor
island and a second crystalline semiconductor island using the first and second portions,
respectively;

forming a first gate electrode and a second gate electrode adjacent to the first and second
crystalline semiconductor islands with a gate insulating film, respectively;

introducing a first impurity into the first crystalline semiconductor island to form a first source region, a first drain region and a first channel region of a first thin film transistor;

introducing a second impurity into the second crystalline semiconductor island to form a second source region, a second drain region and a second channel region of a second thin film transistor,

wherein the metal element is selectively introduced into the first portion of the amorphous semiconductor film by coating a solution containing the metal element therein and applying water repellency of the semiconductor film to the solution.

15. (Withdrawn) A method according to claim 14,

wherein the metal element is at least one selected from the group consisting of Fe, Co, Ni, Ru, Rh, Pd, Os, Ir, Pt, Cu and Au.

16. (Withdrawn) A method according to claim 14, further comprising:

irradiating the crystalline semiconductor film with a laser light.

17. (Withdrawn) A method according to claim 14, further comprising:

heating the crystalline semiconductor film in an atmosphere comprising a halogen element.

18. (Withdrawn) A method according to claim 14,

wherein the first thin film transistor is a p-type thin film transistor while the second thin film transistor is an n-type thin film transistor.

19. (Withdrawn) A method according to claim 14, further comprising:

forming an insulating film over the first and second crystalline semiconductor islands, the first and second gate electrodes and the gate insulating film;

Applicant : Hisashi Ohtani
Serial No. : 09/621,943
Filed : July 24, 2000
Page : 7 of 9

Attorney's Docket No.: 07977-227002 / US3559D1

forming at least an electrode connected to one selected from the group consisting of the first source region, the first drain region, the second source region and the second drain region.

20-23 (Canceled)